

### Abstract

Optical fiber coil for a fiber-optic measuring device, and a method for producing it

In order to reduce the sensitivity of a fiber-optic sensor coil to temperature transients along the optical fiber (4) of the coil, and thereby to reduce reciprocity errors produced in the case of fiber-optic Sagnac interferometers, the invention proposes the application of the optical fiber (4) to a winding body (1) in a quadrupole winding pattern in directly successive winding layers such that the turns in the individual winding layers have at irregular spacings, as large a number of crossover points as possible. The spacings between the individual turns in each winding layer are variable, but on average they correspond approximately to half the diameter of the optical fiber. The optical fiber coil is preferably applied to the winding body without the use of fixing and buffer means.

(Figure 2)